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Review article

Community radio-based blended learning model: A promising learning model in remote area during pandemic era



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ABSTRACT

The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

1. Introduction

The world is currently suffering from the COVID-19 pandemic, which poses a serious health and fatality risks. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement physical distancing ([World Health Organization, 2020](#)). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the COVID-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future ([Lee, 2013](#); [Smith, 2019](#)). Teaching and learning activities that have been performed face-to-face have now been shifted to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is what occurred in Indonesia.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the internet that can be used for online learning ([Afianti and Aditia, 2020](#)). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue teaching-learning process during the COVID-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress ([Tamah et al., 2020](#); [Supena et al., 2020](#)). The Indonesian government has issued a policy on education in emergencies and guidelines for learning from home but fails to help those who are unable to use the internet during distance learning.

The COVID-19 pandemic has unknown end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without internet connectivity or in remote regions, resulting in depression among students, student families, and teachers ([Irawan et al., 2020](#)). Students must continue their education and develop their abilities, but their environments are insufficiently supportive and

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accommodating. It leaves teachers and parents perplexed about how to rectify the situation, as it cannot be resolved separately.

Significant concrete initiatives or acts by the government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (Jurriëns, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerandu and Thompson, 1987). In essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, such as the educational community, the school, and the government, to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks as learning medium in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field as an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The next part is a description of the theoretical framework for the Radio Community-Based Blended Learning Model. The last part is the conclusion of the research.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely, Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister and Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution to the reconceptualization of established topics, which is then used to develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative

learning model in remote areas that became an issue in distance or virtual learning during this pandemic due to poor internet connection. The role of this method is to promote a theoretical solution to the need for alternative learning in remote areas. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next, researchers begin to conduct a review, starting from determining time to conduct the study, testing a review process, to critiquing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and critiquing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review, and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, critique of the literature, and theoretical results in a theoretical framework. The last stage is a review, which is written precisely and directly. The rationale and urgency of the study are conveyed. Besides, the review process, for example, how the literature is identified, analyzed, synthesized, and reported by researchers, is described transparently. Review results in integrative review studies are not assessed and evaluated as rigorously as in empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and discussion

This section developed a theoretical framework about the Community Radio-Based Blended Learning Model, which was inspired by the difficulty of learning or access in several remote areas in Indonesia during the COVID-19 pandemic. Because of Indonesia's geography and topology, internet connection or network is disrupted and difficult to receive in remote areas. When a pandemic is still ravaging the country, the Indonesian government implement education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to be covered by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what to do to ensure that students continue learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students, which are crucial for them in order to be able to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the COVID-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to cover remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, an Integrated Literature Review was conducted to develop a theoretical framework for this concept. Blended learning, community radio, transformative critical education, and transformative critical pedagogy were chosen as literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, it focuses on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, the articles on transformative critical education and essential transformative learning were selected because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In case learning will be instructional from teachers to students, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, a solution is needed to solve learning difficulties in remote areas of Indonesia during the COVID-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended learning model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses were when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. [Graham \(2006\)](#) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. Some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning is factors that are used together to obtain harmonious results, which can be seen from the student learning process.

[Singh and Reed \(2001\)](#) define blended learning as a learning program containing more than one model used to optimize learning. [Graham \(2006\)](#) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning have several advantages ([Hoic-Bozic et al., 2008](#); [Graham 2006](#)). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles and allows cost savings and lowers education costs. Using various learning techniques also attracts students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere ([Hoic-Bozic et al., 2008](#); [Graham, 2006](#)). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning materials and offers guidance to students on

carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face-to-face learning with ICT-based learning ([Wahyuni et al., 2019](#)). [Ramsay \(2001\)](#) stated that there are 3 syntaxes in blended learning:

1. Seeking information and critically having sources of information based on the relevance, validity and reliability, and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas that already exist in their minds;
3. Synthesizing of knowledge, namely, constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion, and formulation of conclusions on the information obtained

Blended learning has several roles, including as a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, it serves as coaching between distance independent learning and face-to-face learning between teachers and students, knowing that is supported by effective learning, from delivery, education, to learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents act as a motivator ([Borup et al., 2019](#)). There are six mixed learning elements: face-to-face learning in class, self-study, technology and information, tutorials, collaboration, and evaluation ([Valiathan, 2002](#)). In limited education, there are also four learning concepts: 1) Combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text; 2) Combining pedagogical approach that will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism; 3) Connecting all forms of learning techniques such as videotapes, audio cassettes under face-to-face guidance of teachers; 4) Combining learning technology to create cooperative learning and working effectively ([Valiathan, 2002](#)).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions during a pandemic in remote areas where it is difficult to access the internet. Before implementing mixed learning, an analysis of several things, including attainable competencies, learning objectives, students, and available resources, is needed. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides students to study independently at home by using technology in the form of radio.

3.2. Community radio

[Mtimde \(2000\)](#) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community ([Diasio, 2010](#)). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest ([Barker, 1998](#)). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia because the radio there was controlled by

several interested people and had never broadcast the truth and condition of these workers and thus, the workers then produced community radio (Jurriens, 2014). The radio was regulated by themselves and used to spread the truth and their aspirations. Catavi Radio was a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Initially, radio was dominantly used to support development initiatives (Semujju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community and community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, community radio only serves communities that are within its coverage area or in other words, it has limited coverage area. Fourthly, it provides closeness to the local situation. Because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable and the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability and all members are open to managing this radio. The second condition is locality. The Radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, community radio is non-profit or in other words, it is not used to earn profit. The last condition is control from the community to ensure that broadcast content meets the community's needs and community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing community radio

In organizing community radio, the organizer must understand the fundamentals of community radio and the characteristics and differences that distinguish community radio from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent the voices of those who are the victims of racial discrimination, gender discrimination, or social class oppression, and generally to become a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio

must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring that broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2. Community radio for education in several countries

3.2.2.1. Community radio for education in Canada. Radio has been used as a medium for education since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert and Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target of the Point Greg School for students with disabilities and blindness in the Vancouver area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be accessed by students.

3.2.2.2. Community radio for education in India. As a rural community-based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerandu and Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS) has been successful in improving the prosperity of the farmers through the increased productivity of the corps and the increased literacy level of the community, proven by the increased newspaper reading among the people in Kotampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text and is useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3. Community radio for education in Nigeria. In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by the termination of provincial stations in Nigeria by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then, Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to connect rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices that could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions, one of which was a radio school, namely educational radio for rural communities in Nigeria that offered an education that was more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4. Community radio for education in Kenya. In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education for first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low-quality teacher and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community radio for education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of programs, such as *Media Audio Penunjang Pembelajaran* (Learning Support Audio Media), *Media Audio Kreatif* (Creative Education Audio Media), *Media Audio Pendidikan Anak Usia Dini* (Audio Media for Early Childhood Education), *Media Audio Jelang Ujian Nasional bagi Tuna Netra* (Exam Preparation Media Audio for the Blind), *English Audio Dictionary*, *Cerita Tokoh* (Story of Character), *Dongeng Anak Nusantara* (Indonesian Fairy Tales), *Radio Edukasi Musisi* (Musician Education Radio), *Risalah Nabi dan Sahabat* (Treatise of Prophets and Friends), *Ensiklopedia Populer* (Popular Encyclopedia), *Kata-Kata Mutiara* (Words of Wisdom), *Telusuri Jogja* (Explore Jogja) and *RE Jalan-Jalan Sore* (Education Radio for Afternoon Trips) (Irawan, 2018; Purnama, 2011). Education Radio has established partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch colonial period (1925–1942). Before the early 20th century, the Indonesian communication landscape was not well accustomed to long-distance communication technologies. Mail sent using human services was used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang and had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called

Bataviashe Radio Vereeniging (BRV) began its operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcast eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and disunite the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian nationalist movements attempting to fight against the Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based Vereniging Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government-employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts and culture and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2. Japanese colonial period (1942–1945). On March 8, 1942, the government of Dutch East Indies signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2017). Initially, the languages used were Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as *Hoso Kyoku* and its branch offices were known as *Shodanso*, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers was to stop the operations of foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from *Hoso Kyoku*.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to instill a sense of Indonesian nationalism in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the field of national culture, the Japanese radio employees attempted to expand the amount of Indonesian art and culture they could present through music, drama, social class, and *keroncong* (a kind of Javanese song). This enabled Indonesian arts and culture to flourish and gave rise to many artists.

3.2.3.3. Independence period (1945). On August 14, 1945, Japan surrendered unconditionally to the Allied forces. The Indonesian youth leaders used this moment to continue to keep their imprisoned independence fighters, namely Sukarno and Hatta, to declare Indonesia's independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hosokyo radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarno attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station Hosokyo. Finally, the last requisite for broadcasting Indonesia's independence, which was Hosokyo radio, was met in the early morning of August 17, 1945.

3.2.3.4. Reform era – present. Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak on behalf of the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people via RRI, with no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only was conveyed by the government on its behalf, but also other information that was appropriate and needed by the community could finally be obtained. These radios, which were developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up the wave of reform. During this time, people were given the freedom to freely express their thoughts publicly. The law of 2002 made it possible for community radio to be legally recognized and protected and it became official in the Law Number 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as *Radio Komunitas*.

Additionally, the Ministry of Information attempted to hinder community radio development, which despite of their success in recognizing community radio, led to their dissolution. Community radios emerged and grew rapidly throughout Indonesia since then. These community radios have also organized themselves into an organization named the Indonesian Community Radio Network (ICRN) in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The potential use of community radio for learning in remote areas during the COVID-19 pandemic

Education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to finally get a learning experience. Even though it has not been able to meet the

educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community and has not yet used for the educational purpose. Community radio, however, can be used as an educational option during this pandemic in rural areas where internet access is hard to get. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, and owned and controlled by the community, whose programming is adapted to the needs of the community and locality prioritization, can be used as the essence and concept of community radio for education, so there is no conflict of interest in education. Community radio for education can be established with participation from schools, teachers, students, and student guardians as community members. Content is tailored to educational needs, which are to transfer material and guide students in carrying out learning activities. Management and control are carried out by community members, namely schools, teachers and student guardians. Prioritizing locality in the delivery of content can be represented by the use of local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that in social conditions, all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci and Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to prevent the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual stratas that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely, to provide homogeneity and awareness of the masses' functions. Organic

intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education, which is to humanize human beings (Kurtz, 1996; Green, 2013).

Then, the Freire School views that education's axis is siding with the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. This is a bank-style education system that considers humans to be uncritical. It is like a container that contains material that students will memorize and memorize. Being used when needed, it is like saving money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow and Torres, 2002).

Freire rejects an education system that views humans as passive creatures who do not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely, from educators to students (top-down), students to educators (bottom-up), and students to other students (networks), to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, and social quality changes with friends and community around them. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and their interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class.

Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and conversely, when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why and in what way these things exist, who gets harmed, and how, then, teachers and students develop answers together (Morrow and Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, then helps to construct an idea of what to do and what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but become subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass and Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4. Community radio-based blended learning model as a promising model in pandemic era

The researchers found several relevant findings that support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely, seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on community radio, we found that the existence of community radio in this world is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, and Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression and has made concessions on community radio operations. The government also acknowledges its existence and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature and characteristics of community radio, its differences from public or private radio, and prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves and free to conduct community radio broadcasts without intervention and the government has recognized and protected community radio by law. In addition, by considering some literature on community radio that has been used for education in various countries, including Indonesia, it can be concluded that in Indonesia, it is possible and there is an

opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings in the implementation of transformative education. Learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them, and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment, and the world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

The technical implementation of transformative critical learning must be carried out openly with full dialogue and full responsibility between educators and students and all interactions between education and students are egalitarian and fair; students must have freedom of initiative and opinion, get inspiration and perspective, and communication must be in top-down and bottom-up relations to create dialogic education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructively, so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literatures were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework of the community radio-based blended learning model.

Community Radio-Based Blended Learning Model (CR-BBLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BBLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BBLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet access is hard to get. The learning model has three essential aspects: being non-profit, being controlled by the community itself, and community participation. There are four characteristics of CR-BBLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited broadcast range for the coverage area around the place where the learning takes place or around the school that is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs that are adjusted to the conditions of the members of the learning organizers in remote areas

In carrying out CR-BBLM, several requirements must be met. Participation, locality, non-profit, and community control are fundamental principles. To implement the CR-BBLM, it should be well planned, organized, implemented, and supervised. It is necessary to manage CR-BBLM implementation, including planning, organizing, directing, and monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BBLM, the community plans learning

based on blended learning, including determining learning objectives, time planning, activities, and technical planning of radio usage in learning. Then, in the organizing process, the content or material presented in the learning process is in accordance with content or material formulated and organized in the planning process.

Furthermore, in the briefing process, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide students with awareness of themselves and the outside world, increase students' awareness critically and enable students to face themselves and the problems around them creatively, and bring about changes in quality so that students can come up with new ideas and can bring change to students themselves, the environment, and the world around them.

In the technical learning in CR-BBLM, learning is carried out with students as the center of learning or in other words, it is student centered learning. Students are more active in learning activities and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives, and respect others' freedom. CR-BBLM must use radio and be done remotely or not be done face to face. Still, the learning process must remain open and dialogic and not be in one direction only from teacher to student. Communication in learning must occur in all orders, from teacher to student, student to teacher, and student to other students. It is essential to pay attention to it so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. Distance learning during this pandemic tends to be instructive. The teacher gives instructions and provides material and students do what the teacher instructs and passively accept the material.

Freire (1985) stated that students are not like banks, which only need to be filled with material and passively accept and memorize them according to what the teacher instructs. Students are humans who are given the ability to reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely, humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full of dialogue, and full of interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice, and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge with students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have in the future. Through critical pedagogy and a dialogic learning process, the teacher must encourage students to think philosophically and practically about what is learned and why it should be studied.

Furthermore, they must see what happens to the reality around themselves and their world, reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BBLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the COVID-19 pandemic due to internet signal constraints. However, it still needs further research about its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. This promising model can immediately implement to solve the problems and students can immediately continue the learning process and continue to grow and develop.

4. Conclusion

There is an alternative solution to learning in remote areas with lack of internet access, namely, the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student during learning activities and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

4.1. Limitations of this study

There are numerous limitations to consider in interpreting the results of this integrative literature review study. This study examines various literatures to construct a theoretical framework of alternative learning in remote areas with limited internet access during a pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including from implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2. Recommendations for future research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.

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